THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

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Maritime Law.

Interpretation of Charter party—According to the stipulations of a charter party, a steamship was to go to the charterer's loading berth, and there load, "always afloat," a full cargo. The ship having arrived at the berth, loaded a part of her cargo. It was then found that though she could take in the remainder of the cargo, being "always afloat," she could not, when completely loaded, in the then existing neap tides, have passed over the dock sill for a week. Consequently, she left the dock and finished her loading outside. It was decided that as she could load "always afloat" in the dock, she was not entitled to leave it to avoid being neaped.

Inequitable Salvage Agreement—It has been held that if the parties to an agreement for salvage services about to be performed on the high seas have not contracted on equal terms, this fact will not invalidate such an agreement, but, if the master of the ship about to be salved is at a disadvantage, and the sum insisted upon by the intending salvor is, in the opinion of the court, exorbitant, the necessary elements exist for setting aside the agreement as inequitable.

SALVAGE SERVICES.

As an indication of how salvage services now rule in the English courts we quote the following two cases:

Admiralty Division, November 10th.—The owners of the Trevorian sought to recover for salvage services rendered to the Tredegar. The value of the Trevorian was £25,000, her cargo £28,000, and her freight £4,280. The value of the Tredegar was £10,000, her cargo £16,000, and her freight £1,225. On October 16th last the Trevorian was on a voyage from Kurrachee to Dunkirk with a cargo of wheat, and at about 9 a. m. she was about 20 miles SE of Cape St. Vincent, on a NW course; there was a fresh breeze from the NNW, and a strong sea running with the wind. The Tredegar was observed about four miles off, with her main trysail set and heading to the northward. She subsequently exhibited three black balls, and it was found that her crank shaft was broken, and that she wished to be towed into Lisbon. The Tredegar was rolling heavily broadside to the sea, and the captain of the Trevorian went on board at considerable risk, and then ascertained that the vessel had broken down at 2 a. m. At about noon towage commenced, a speed of about five knots being obtained. Beyond Cape St. Vincent there was a very heavy sea and a strong wind, and both ships rolled very much and took water over their decks. Though the engines were kept at full speed, the way dropped to about four knots. At about 3 a. m. the next day the rope stranded, and, at great risk of fouling the Trevorian's propeller, had to be got in and made fast aft the stranded part. At about 2:30 p. m. the Tredegar was brought safely into the Tagus. The towage altogether was about 150 miles, and it was contended that by the services the Tredegar was rescued from great danger. It was denied in defense that the Tredegar when taken in tow, was rolling heavily, or that there was any serious risk of the Trevorian's propeller being fouled. His Lordship awarded £1,200:—£900 to the owners; £100 to the master; and £200 to the officers and crew according to their ratings.

In this case the total property involved was nearly half a million dollars; service about 30 hours and distance towed 150 miles, recompense $6,000.

Admiralty Division, December 5th.—The owners of the Scythia sought to recover for salvage services rendered to the Edam in the Atlantic. The value of the Scythia £50,000, her cargo £58,359, and her freight £3,448. The Edam was valued at £16,500, her cargo at £40,000, and her freight at £1,244. The Scythia was bound from Boston to Liverpool with a general cargo and passengers, and on October 16th, when about 854 miles from the Fastnet, sighted the Edam making signals of distress. The wind was NW., and there was a heavy swell, causing both vessels to roll heavily. It was found that the Edam had lost her propeller nine days previously, and had been knocking about. It was agreed to tow the vessel to Queenstown, and at 2:35 p. m. towage was commenced. The hawser shortly afterwards parted, and it was dark before the hawsers were secured. The towage was continued till the 19th, when the wind increased to a fresh gale, the Edam steering badly, and sheering wildly. The weather continued bad on the 20th, and on the following day there was such a heavy sea that at one time there was not more than 15 or 20 yards between the two vessels, and the Scythia's engines had to be put on full speed ahead. At about 1:45 p. m. the Edam was cast off in a safe position in Queenstown Harbor. It was contended that by the services the Edam was rescued from a most perilous position; the towage extended over 914 miles, exceptionally heavy weather prevailing during the time. The Scythia was detained two days, and sustained actual loss to the extent of £123, besides being exposed to considerable danger. It was urged in defense that at no time was the weather dangerously bad; the services were well rendered, but were without risk to the vessel. His Lordship awarded £4,500; three-fourths to the owners, £250 to the captain, and the remainder to the officers and crew according to their ratings.

In this case about one million dollars was involved in the service, towage 914 miles and only $22,500 awarded.

HOME FOR AGED MARINERS.

The following is the text of a Bill introduced in the House by Tom L. Johnson at the request of the Veteran Seamen's Benevolent Association. To create a home for crippled, infirm, and aged seamen of the merchant marine service:

1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Secretary of the Navy be, and he is hereby, authorized and directed to erect and establish a home, at such place as in his estimation shall be most desirable, for crippled, infirm, and aged seamen of the merchant marine service, subject to the following conditions and limitations: Persons to be admitted to the home shall be citizens and residents of the United States for at least five years prior to their making application, and shall have sailed at least five years under the flag of the United States, and shall be so disabled, infirm, or aged that they are unfitted to longer follow their calling.

SECTION 2. That persons desiring admission must make application to an examining board; this board to consist of the collector of customs, the United States marine surgeon, and the inspector of hulls for the district in which the institution is located. It shall be the duty of this board to examine thoroughly into the qualifications of the applicant, and if he produces positive and satisfactory evidence, the board shall grant him a certificate of admission.

SEC. 3. That the home shall be under the management of the Secretary of the Navy, and he shall appoint a governor, who shall be in charge, and who may employ such additional help as he may consider necessary. He shall also prescribe the rules necessary for the management of the home, subject to the approval of the Secretary of the Navy.

SEC. 4. That for the purpose of carrying out the provisions of this act, a sufficient appropriation, to be designated by the Secretary of the Navy, is hereby made out of any moneys in the Treasury not otherwise appropriated.

SEC. 5. That this act shall take effect from and after its passage.

NON-DELIVERY OF CARGO.

A Buffalo vessel owner has been involved in rather an interesting action for non-delivery of cargo. It appears that the Champion was loaded at Chicago with corn which constituted part of a 200,000 bushel lot that the shippers had contracted to deliver at Liverpool, by the 20th. of the present month. At the time shipment was made documents showing the Champion's cargo constituted part of the corn under contract were forwarded to the foreign consignees, and as the price of the cereal has since then declined from 10 to 15 cents, other corn cannot be submitted without the consent of the purchasers abroad. Knowing this, the shippers had for some time past been negotiating with the vessel owner, for his consent to the delivery of the cargo at an elevator in order that it might be forwarded by rail, but he insisted upon payment of the freight money before granting the permission asked. To this the shippers demurred and replevened the cargo having it transferred to cars. With the best of despatch it is questioned whether the consignment can be placed on board ship at New York before the 20th., and therefore extremely doubtful whether this fractional part of the 200,000 bushel lot will, or will not result in the annulment of the entire contract. In the event of annulment, the shippers would have to bear a loss of anywhere from $20,000 to $30,000, because of the delay, and naturally they will look for compensation. At any rate they will decline to pay the Champion's freight, and endeavor to collect from the vessel owner through the courts, the additional expense they have been put to in forwarding the corn to the seaboard.

CANAL AND HARBOR PROTECTIVE UNION.

At a meeting of the Canal and Harbor Protective Union held in New York on Friday last, resolutions were adopted appealing to the legislature to prevent railroads from discriminating against the State canals requesting that the Erie canal be improved as recommended by ex-State Engineer Horatio Seymour, Jr., and that $2,000,000 be appropriated annually until the work is completed. Assemblyman Riley's bill appropriating $750,000 for the Champlain canal was indorsed. It was also recommended that liberal sums be appropriated for the improvement of Black River, Oswego, Cayuga and Seneca canals. Resolutions against "the railroad grain elevator combines of New York, Brooklyn and Buffalo," were also adopted and a request was made that the present Legislature make provision for the construction of a suitable number of grain elevators to be operated by the State at the above mentioned points. It is the purpose of the Union to hold a meeting in Albany on or about February 14th, when ways will be devised to get bills favoring the canal enacted.

THE MARINE RECORD FOR ONE YEAR

—AND—

Beeson's Inland Marine Guide	$2.50
Law of Bills of Lading	6.50
Patterson's Nautical Dictionary	6.00
Drawing and Rough Sketching for Engineers by James Donaldson	4.00
Scott's Coast Pilot (new edition)	3.00
Simple Elements of Navigation	3.50
"Wrinkles" in Practical Navigation	6.00
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ORGANIZED IN 1880.

(Membership 1890.)

One hundred and thirty-eight steamers, and
One hundred and thirty-two sail and barge, } Aggregating 245,70[illegible] tons.

Maintains shipping offices at Cleveland, Ashtabula Harbor, Fairport and Toledo. Regulates wages, protects crews, and takes cognizance of all matters in the interest of the members and of the lake commerce generally.

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THE MARINE RECORD.—OFFICIAL PAPER.

NEWS AROUND THE LAKES.

CLEVELAND, O.

Capt. Duncan Builhas resigned his command of the Wilson Line Steamer Sitka. No other appointment is yet made.

Capt. William Cowan has resigned the command of the steamer George Spencer. His re-appointment to another command is not yet learned.

Col. Carr, of the firm of Keith & Carr, of Chicago and Captain D. Sullivan, wrecking master for Vance & Co. of Milwaukee visited in the city last Thursday.

Captain Frank Wright, of the Cleveland Dry Dock Co., was elected president of the Dry Dock Association of the Lakes at their annual meeting held in Chicago on the 13th.

Captain Thomas Wilson, is in New York, attending the annual meeting of the American Steel Barge Co. It is expected that Captain McDougall will return with him to this city on Saturday.

J. R. Oldham, Lloyds agent, returned from Chicago on Tuesday, where he held a survey on the steamer Scranton. Her damages will amount to about $8,000, twenty shell plates having to be taken off.

Joseph R. Oldham, surveyor to the Record of American and Foreign Shipping, has had to increase his office accommodation, another room having been added thereto for consultation in connection with the business of the American Shipmasters Association.

Captain Frank Fick has purchased one-tenth of the steamer Fedora. He will sail her next season. Captain Fick was master of the steamer Kasota when she was run down in the Detroit river by the steamer City of Detroit two years ago and last year he sailed the M. B. Grover.

Captain L. W. Stone was elected to membership in Cleveland Lodge, Excelsior Marine Benevolent Association at their last meeting. Headquarters for visiting delegates to the grand lodge meeting, which will be held here to-day (Thursday) will be at the Weddell House.

Captains Watts and Lyon, of the Menominee Line Steamers Norman and Saxon, will change their commands next season. There are several new steel steamers coming out and experienced men are required to handle them, though it is considered by owners, too early to announce the regular line appointments.

The Fisher Electric Co., have received the contract to place a complete electric light installation on the entire fleet of the Menominee Transit Co. boats, this is probably the largest order ever given one firm for electric lighting of vessels on the lakes, yet, the high reputation of the Fisher system is widely acknowledged.

Mr. John D. McRae, superintendent of the Morris Machine Works, Baldwinsville, N. Y., spent Friday in the city on business for his firm. An order for ballast pumps for two new steel steamers now under construction by the Globe Iron Works Co., was placed with the Morris Machine Works.

Mitchell & Co., vessel owners and brokers, have placed a contract with F. W. Wheeler & Co., Bay City, for a fine new tow barge to sail as a consort to the Geo. T. Hope. Messrs. Mitchell, Fitzpatrick and Wedow, are in business to the extent of their ability and they are fast becoming one of the most prominent firms in the vessel owning and brokerage business. Owners of the Hope signed the contract for the new consort.

Delegates from all the principal points on the lakes are arriving to attend the annual convention of the Excelsior Marine Benevolent Association, which is to be held in this city this week. A feature of the occasion will be the Ship Masters' annual ball and banquet, given by members of Cleveland Lodge E. M. B. A., at Red Cross Armory on Thursday evening. No pains have been spared to make this an elegant affair, and everything promises a success, being all old travelers they well know how to entertain visiting friends and the most enjoyable re-union of marine friends, shipmates and associates is predicted for the annual dance taking place to-night.

The Veteran Seamen's Benevolent Association of Cleveland, O., have made the following appeal to the Masters, Owners, Mates, Pilots, Seamen and Firemens Associations of the United States: Greeting—We ask all kindred organizations in the name of humanity to urge upon Congressmen representing their respective districts the merits of the Bill introduced at this session of Congress by Hon. Tom L. Johnson, of Ohio, entitled "A Bill for an appropriation to build a home for aged and infirm seamen of the Merchant Marine." The eligible candidates for this home to be any incapacitated, aged or infirm persons who may have served in any capacity in documented vessels of the United States for a period of not less than five years and who are citizens and residents of the United States.

Work is progressing rapidly an the construction and enlargement of the Cleveland Dry Dock Co.'s new dock. Smith Bros. who have the extensive contract are carrying out the work in a manner which reflects great credit on their ability and it is safe to say that the dock will be in perfect order and ready to resume work on the time limit agreed upon. Although no vessels can dock we find that considerable work is being carried on, a large coal lighter of 160 feet in length, 32 feet beam and 7 feet 7 inches depth, is being built at the yards for Pickands, Mather & Co., to be used for fueling purposes and she will be built as strong as wood and iron can be put together. Steel arches are also being put in the steamer C. H. Green and she will receive a general overhauling. Her boilers and machinery will also be thoroughly overhauled engineer Warriner having been sent from Bay City to superintend the work.

CHICAGO, ILLS.

Special to The Marine Record.

Robert Tarrant, is bushing the high pressure cylinder of the steamer George T. Hope's engine.

John Mohr & Son, are building two new steel marine boilers for the steamer City of Charlevoix.

The steamer Scranton is in one of Miller Brothers dry docks receiving repairs to her bottom. The South Chicago Steel Ship Building Co. are doing the repairs.

F. H. Pell, travelling agent for the American Ship Windlass Co., was in Chicago on Monday and left Milwaukee in the afternoon en route for Duluth.

T. M. Sullivan, the marine grocer and vessel supply man, at 21 Rush street, intends the coming season, to keep a full supply of all kinds of oils, greases, compounds and paints on sale.

Capt. H. Thompson has gone into the restaurant business at 230 Washington Boulevard. He would be pleased to receive a call from some of his marine friends, and promises them a good feast.

Capt. David Critchett, who is looking after the Whitney fleet in winter quarters here, has had considerable repairs done on the steamer D. C. Whitney and consorts Wayne and Ashland and they are now ready to load again.

The steamer City of Fremont, Captain Conelley, bound for St. Joseph with merchandise and nearly forty hours out from Milwaukee, ran in here Sunday noon with her machinery disabled. She will leave again when repairs have been made.

A. K. McRae, of Pittsburg, Pa., is here to make a mammoth deal with all steamboat lines for handling their freight next season. If he can switch all labor interests into line he is a daisy. Unions or otherwise, he wants to handle the entire dock work for the large lines.

At the Chicago Dry Dock Co's., the tugs Chicago and Mollie Spencer, were in dock for general repairs; the steamer City of Duluth is in for repairs to wheel and stern bearing, some new bulwarks, general repairs and calking; the schooner Olive Jeanette, received a bowsprit and jibboom.

The Independent Coal Dock Co. will the coming season have very much better facilities for coaling steamers than heretofore. The company will have over one thousand feet of dock front and will erect one or more extra steam derricks in addition to those they have been using. Capt. George Tebo will be around as usual.

One of a gang of dock thieves was sent to the Bridewell on Saturday for 30 days, having been caught in the act of breaking into the cabin of the schooner Montmorency. In December the cabin of the Montmorency was broken into and the cook stove, kitchen utensils and other articles were stolen. The schooner is laid up at a dock at the foot of Oak street in the North Branch, the locality is infested with thieves.

Capt. George Tebo, president, and Capt. J. Hogan, past president of Chicago Branch 3 of the E. M. B. A., will attend the annual convention of the Association to be held at Cleveland this week, commencing Thursday, January 21st. Captains John Massey and H. W. Blend were initiated members of the E. M. B. A. at their meeting Monday afternoon. The Chicago Branch 3 of the E. M. B. A. will in future hold their meetings Wednesday afternoons.

The Goodrich Transportation Co's steamers City of Ludington and Menominee, are doing winter service between Chicago and North-western Lake Michigan ports, leaving here Tuesdays, Thursdays and Saturdays, weather permitting. Capt. Gallagher is commanding the City of Ludingtonvice-Captain Gee, who was compelled about three weeks ago to give up his command in consequence of an attack of grippe, from which we are pleased to know he is recovering.

Capt. W. E. Lander, of 70 Throop St. Chicago, who put in several very successful seasons on the steambarge A. D. Hayward, and made the largest number of trips between this port and ports on the Eastern shore of Lake Michigan during several seasons, is seeking an engagement as master of a steamer, in consequence of the A. D. Hayward, formerly owned by S. R. Howell & Co., having been tied up since July last, at Escanaba, and being at present in litigation, and the delays and uncertainties of law compels the captain to be on the lookout for something else to do.

Capt. William Nicholson, of the steamer Boscobel, has received the following communication: "Chicago, Ills., January 18th, 1892. Sir:—In compliance with the petition signed by yourself and others, forwarded with the recommendation of the engineer and inspector of the Ninth Lighthouse District. The Lighthouse Board has directed that the Pilot Island light be changed from a fixed red to a fourth order fixed white, with a fifteen second white flash, the change to take effect immediately prior to the establishment of the Plum Island range. Respectfully, Nicoll Ludlow, Commander, U. S. Navy, Inspector Ninth Lighthouse District.

Capt. Henry Hewitt, aged 83 years, died at the Chicago Marine Hospital last Thursday morning. He was for many years a captain in the Evans Line of Buffalo and commanded several of their best steamers and when that line was transferred to the Anchor Line the captain joined the Anchor Line and was in their employ until last summer when he was taken sick and went to the Marine Hospital. At that time he was lookout on the company's steamer Lehigh and had been employed on her since she first came out. The Chicago Branch 3 of the E. M. B. A., took charge of the captains body and a large number of the members attended his funeral which took place at Oakwood Cemetery Tuesday afternoon.

Thomas H. Smith, of the firm of Leatham & Smith, vessel and tug owners, Sturgeon Bay, is here this week on business. The firm are putting false sides on their steamer Pewaukee, and making her 8 feet wider on deck. Their tug John Leatham is at Manistee receiving a new fore and aft compound engine, built by the Manistee Iron Works. Leatham & Smith, and George Nelson, the firm's book-keeper for the past 18 years, have formed a joint stock company this month which will be known as The Leatham & Smith Towing and Wrecking Co. The company has 4 tugs, one 1200 ton lighter, two 800 ton lighters one 400 ton lighter, two Baldwinsville Centrifugal pumps one a 12-inch, and the other an 8-inch. They have a private telephone wire connected night and day at their tug office. Sturgeon Bay, with Death's Door and stationed at Hans Tostersons at the Door. Mr. Smith says he saw Tom Gannon, from Washington Island, last Saturday. He reports the schooner L. C. Butts broken up, and her forward part and cargo strewed along the beach. He also reports that the schooner Newsboy, is badly twisted at the stern, and that she would be a total loss, and the schooner H. M. Scove, ashore between the Plum and Washington Islands, had rolled over on her side since the weather froze up.

WILLIAMS.

ASHTABULA, O.

Special To The Marine Record

Capt. James P. Denvey has the contract for building a new tug for the Kunkle Bros., which is to be the same size as the Kunkle Bros. The engine is being built by McKinnon Bros.

H. C. Pearsons' latest contribution to lake literature is a book called "A Manual of Navigation for the Lakes." Its object is to instruct masters, mates, pilots, etc., in scientific and practical sailing, adjustment of compasses, construction of charts, and other kindred subjects which a lifelong study has made the author thoroughly familiar with. The book will be issued by Bissell & Srivens, now at Cleveland, but former residents of this town and well-known here.

The office of Deputy Collector of Customs at this port, made vacant by the death of Mark Gary, has been filled by the appointment of W. G. McCartney, who has been a resident of Ashtabula for many years, and who served with honor in the late war. Although Mr. McCartney has heretofore had no connection with the lake marine, his native ability and gentlemanly qualities are a guarantee that he will discharge the duties of the office with credit to himself.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the Navigation and carrying business of the Great Lakes and the waters tributary thereto, with the intent to improve the character of the service rendered to the public, to protect the common interests of Lake Carriers and promote their general welfare.

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THE MARINE RECORD.—OFFICIAL PAPER.

BUFFALO, N. Y.

Special to The Marine Record.

A waterway to the coast is simply ridiculed here, as it would let the foreign element into competition with our otherwise well protected lake trade.

The Lake Pilots' Aid Association has about completed the fitting up of their new rooms at No. 37 Main Street, and they have held their first meeting there. The rooms are very commodious and well adapted to the needs of the society.

A new excursion company has been formed here to build a steamer for service on the Niagara River, she is to be of composite construction. Mr. John C. Level, who more than to any other man is due the popularity of sightseeing at Niagara, heads the enterprise and the legal adviser of the company is David F. Day.

Russell & Watson, the well-known firm of signal lamp manufacturers and stove makers, are furnishing the bulk of the marine trade around the lakes with their reliable and well made goods. It is well known that what costs nothing is good for nothing, and the firm believe in supplying only first-class goods so as to keep a "cinch" and permanence on their well-earned reputation.

Senator Hoar is preparing to use the information obtained in his tour as chairman of the Committee on Trade Relations with Canada, to introduce and push a bill directing the Secretary of War to inquire if any discrimination against grain for American ports going through the Welland Canal is practiced, and if such is found, the Secretary is authorized to retaliate by imposing similar tolls on grain for Canadian ports that goes through the St. Mary's and St. Clair Flats canals.

Marine business is very dull here just now. Vesselmen talk as though the best freights were coming early this season. There is already a demand for grain carriers, and so much of the crop is still West, that a fair rate of freight is likely to obtain well along after the opening. An offer of $1 for vessels to bring ore from Escanaba, was reported here this week, though vesselmen did not appear inclined to take it. Last season the vessels got taken in on their contracts, the daily charters averaging higher, and in 1890 the vessels under season charters were delayed and the ore given to vessels on a lower freight; demurrage was out of the question, and consequently the season charters held the vessels down to a bare living.

Secretary Keep, of the Lake Carriers' Association, is back from Washington, where he went to look after the lighthouse bill in connection with the secretary of the Cleveland Vessel Owners' Association. He has sent out circulars to the 38 business organizations that were represented at the Detroit Waterways Convention, urging them to send delegases, as agreed at the convention, to the joint hearing of the Senate Commerce Committee and the House, River and Harbor Committee, which will take place on January 30th. The subject to be taken up is the proposition of Gen. Poe for deepening the lake passages to 20 or 21 feet. The Detroit convention pushed the matter as far as possible, and now another step is to be taken before these committes in Washington.

TORONTO, ONT.

Special to the Marine Record.

Large repairs are being made to the steam-barge Africa and the schooner J. H. Breck, and they will come out next spring in first class shape.

Work on the new steamer for the Toronto and Port Dalhousie route is being pushed forward very rapidly, and she will be ready for business early in the season.

Mr. J. A. Beatty of the Northwest Transportation Co., was in the city last week, and is well pleased with the business done by the steamers of the company during the past season.

Capt. H. O. Jackson of the steamer L. Shickluna has been laid up with a very severe attack of the grip, but I am glad to see that he is once more able to be around, and congratulate him on his recovery.

Capt. Thomas Taylor of Kingston, Inspector for Inland Lloyds, is at present in the city holding his annual survey of the steamers laid up here, for the purpose of giving them their insurance rating for next season.

The Richelieu and Ontario Company are adding a new steamer to their fleet. The boat is now on the stocks at Chester, Pa. She will run between Kingston and Montreal, and will be a day boat only. She is of the same general dimensions as the boats already on the route, but will be fitted up with all the latest and most improved equipments. She will be a twin boat and about 150 feet in length.

Mr. A. M. Robertson of Hamilton, the well known shipbuilder and owner of the propeller St. Magnus, fell down the hatchway of that steamer last Tuesday, while making some repairs. As he did not go home at his usual hour, his sons set out to look for him and after a long search found him lying insensible in the hold. When picked up, it was found that his right arm was broken and he had suffered such a severe shock that he died the following morning. His family have the sympathy of the entire community, as the deceased was held in the highest respect by all classes.

A meeting of steamboat managers was held here last week to arrange for the coming summer the tariff which will operate between themselves and the railways. Mr. T. P. Carpenter, Buffalo, of the Lake Superior Transit Company, was in the chair, Mr. D. McNicoll, Montreal, represented the C. P. R., Mr. G. S. Beli, of Montreal, appeared for the Grand Trunk, while the steamboat companies represented were: Lake Superior Transit Company, North-West Transportation Company, Richelieu and Ontario Navigation Company, Niagara Navigation Company, Empress of India, Great Northern Transit Company, Lake Ontario Steamboat Company, North Shore Navigation Company, Muskoka and Georgian Bay Navigation Company, and Ottawa River Navigation Company. The rates which held good last year were adopted for 1892 without any change.

SPARTA.

FLOTSAM JETSAM AND LAGAN

Last season 4,563,472 tons of freight were carried through the New York State canals.

Mr. Thomas Myles the veteran coal dealer and vessel owner, of Hamilton, Ont., died Monday, in his 81st year.

Lieut. Hodgkinson of the Bristol Naval Reserve, and the members of the Veteran Seamen's Benevolent Association, Cleveland, O., have offered their services to the Secretary of the Navy, in the event of war with Chili.

At the annual meeting of the Dry Dock Association of the lakes, held last week in Chicago, the following officers were elected: President, Frank Wright, Cleveland; vice-president, William E. Fitzgerald, Milwaukee; secretary and treasurer, H J. Mills, Buffalo.

James Reid's big tug Seagull started from Bay City last week to aid the schooner Minnehaha. When four miles from the mouth of the river, her wheel struck a sunken log, and all four blades were broken off. The weather became so cold that the tug was frozen in, and there she remains in a helpless condition. Seven of the crew walked ashore on the ice. Capt. James Reid says he will take a diver and put on four new blades and bring the tug back to port. The ice is from eight to twelve inches in thickness.

The Canadian authorities state that in consequence of frequent complaints that sailing vessels on the lakes have not been complying with the marine regulations which provide that side-lights should be protected by screens, which should extend at least three feet forward from the light, and be placed on the fore and aft line and be vertical; these regulations will be strictly enforced in the future. No side-light ought to be allowed to show across the bow, yet it is a well known fact that the majority of the tow barges and sailing vessels totally neglect this necessary precaution.

It is reported that Boiler Inspector M. F. Chalk, of West Superior, has been offered $1,000, all expenses, and an insurance on his life for $14,000, if he will undertake a submarine search for the Pewabic, in which attempt Oliver Pelkey lost his life in November last. Agreement has also been made that if the vessel should be found, Chalk would be given one-half the proceeds of the sail of the cargo, which includes 555 tons of pure copper, worth, it is thought, over $100,000. He is yet undecided whether to accept the risky task. There is evidently an error in the above, as the cargo, as near as it can be ascertained, consisted of only 270 tons copper, 175 tons pig iron, 200 sheep skins, and 67 rolls of leather, with the usual amount of miscellaneous light freight such as was carried about thirty years ago.

A bill of much interest to masters and shipowners has been introduced in the House by Representative Coombs of Brooklyn, N. Y. It amends section 2,774 of the Revised Statutes (which requires masters of vessels arriving at a United States port to make, within forty-eight hours after arrival, to the collector of the district in which such port is situated, a report in the form of a manifest and containing all the particulars required to be inserted in and verified like a manifest), by providing that any master arriving at a port for orders, and whose port of discharge or lading has not been declared, shall not be compelled to declare such port of discharge or lading within the forty-eight hours. It also amends section 2,807, Revised Statutes (which specifies what must be stated in the manifest), by providing that a vessel arriving at any United States port for orders may have it so entered upon the manifest in lieu of the name of the port of discharge and lading.

"KAPE HER NOR'-NOR'-AIST."

A rather good yarn is told by the master of a Sturgeon Bay canal tug-boat, which runs as follows: "A fellow has some pretty good jokes played on him, but I got played for a sucker in great style one day. It was a rather quiet day on the lake, there not being much of any wind, but the fog was thick. A couple of the tugs were down the lake ahead of me but I had hung around off the canal and had sneaked one vessel in during the day and was thinking if I could only catch another one and the other fellows didn't get anything I'd have the laugh on them. Well after a while I run across a schooner in the fog, went alongside and asked him where he was going. He said he was bound for Escanaba, and so I made up my mind that I could get him to take a tow through. I asked him if he didn't want to go through the canal, and he said he didn't know, and asked what the tow bill was, etc. I made up my mind I had a 'cinch' on that fellow all right. Now it just happened that there was a keg of beer in our ice-box that hadn't been tapped so just to make things sure I asked the captain, who was an old Irishman, if he wouldn't have something to drink. Of course he didn't refuse and one of the boys rolled out the keg, put it on the rail of the vessel, and tapped it. I felt just as sure of that tow as if I had her line, of course. Well we went through the keg all right and the captain began to get a little 'boozy.' About the time we got down to the bottom of the keg what does he do but say. 'I guess I'll be turnin' in and get a bit av slape, I'm much obliged to yez, young man, fer ye're company,' and then he sings out to the wheelsman, 'Kape her nor'-nor'-aist,' and went below. I fired the empty keg onto the schooner, thinking he might as well have the whole shooting-match, and got back onto the tug. That fellow had a great head on him all right.

A MACHINE TO NAVIGATE ON ICE.

During the past week a stock company has been formed in this city says the Sturgeon Bay *Republican* for the purpose of building a craft designed to create something of a revolution in our means of communication with the outside world during the winter season. The machine is the invention of Captain Ed. Cox, of this place, who has been working on the scheme for several years past, and who has finally got it in such shape that all the mechanical experts by whom it has been examined have pronounced it a success.

The aim of the inventor has been to produce something that would be operated by steam power, that would run on ice or ordinary winter roads, and that would carry a load and at the same time make a good rate of speed. The foundation of the ice boat, as it may with propriety be called, is two bob-sleighs, made very substantial and larger than usual, being 8 or 10 feet wide and a corresponding length. The machinery used to drive the craft will consist of a pair of 7 by 9 engines. The craft will be propelled by means of two large wheels, about six feet in diameter which are placed a few inches apart on the extreme end of the forward sleigh. These wheels are heavy and about a couple of inches wide at the tires, being shod with iron spikes long enough to take hold of the ice. These wheels are connected with the crank shaft of the engine by a sprocket wheel and chain, being geared so as to make 100 turns a minute. The large propelling wheels are set in a bearing which allows the sleigh to lift up when it strikes snow or obstructions of any kind while the wheels cut through till they find a solid foothold. The machine is simple and it certainly seems as if the craft had simply got to go. It is steered by the hind bob, a wheel being arranged for that purpose.

It is proposed to build a boat 28 or 30 feet long, with a cabin for passengers on the rear end and also room to carry freight. A speed of 20 miles an hour is claimed and it is calculated that the boat would have no difficulty in taking the route run by the steamer Moore in the summer time and making the round trip in about eight hours. It can also be used on any ordinary road that has the necessary width. As stated before a company has been organized here and one of the boats will be constructed immediately it being the intention to get it ready for trial in about two weeks. If the scheme works and we see no reason for thinking the contrary, it will be a big thing for this part of the country in the winter.

EX-CONGRESSMAN WICKHAM of Norwalk is at Washington looking after the interests of Ashtabula. The navigation interests of Ashtabula desire an appropriation of $315,000 to extend the piers and to dredge the channel to deep water. An authorization of the expenditure is all that is asked for.

Correspondence.

☞ We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

CAUSE OF THE DECLINE OF OUR MERCHANT MARINE.

CHICAGO, ILLS., January 19.

To the Editor of The Marine Record.

If nothing else can be claimed for the Bureau of Navigation, it has at least furnished statistical data from which to draw conclusions. Twenty years official investigation have not sufficed to reveal the real cause of the decline of the United States merchant marine in the foreign carrying trade, it seems therefore expedient to look this matter over again.

The incident of the civil war from 1861 to 1865 having clouded or distorted the statistical data pertaining to the merchant marine so much, that many people have been lead astray by it in forming conclusions. Official inquiries instituted in 1869 lead to the conclusion that the civil war was the only cause of the decline of the United States tonnage in the foreign trade, and this opinion has prevailed up to the time when subsidies and bounties become the rage and new investigations took place without, however, finding the root of the evil.

Looking at the statistical data and diagrams representing the growth, thrift and decline of United States shipping in the foreign trade, we find at a glance in 1855 a sudden check of the previous unprecedented growth of tonnage since 1846; the tonnage remaining nearly on the level of 1855 during the following years up to the commencement of the war in 1861. Tonnage in the foreign trade being:

1846—943,307 tons; 1849—1,258,756 tons.

1855—2,348,358 tons; 1861—2,496,894.

Showing for the 6 years previous to 1855 an increase of 1,089,602 tons against an increase of only 148,536 tons in the succeeding six years from 1855 to 1861. The cause of this sudden falling off in the increase of tonnage has never been made the subject of official inquiry. It has been attributed to bank contraction in 1856, and bank panic in 1857, which certainly influenced the growth in some measure for the time being; but the years 1859, 1860 and 1861 showed no resumption of the former activity in shipbuilding, although the panic was over; inevitably leading to the conclusion that the original cause whatever it was, was still in operation.

The destruction during the civil war put American tonnage in the foreign carrying trade down to 1,518,350 tons in 1865, on which level it remained, small fluctuations excepted, up to 1878, when the irretrievable decline set in.

The fact, that during the twelve years after the war, the tonnage remained on the level of 1865, as the six years before the war it remained on the level of 1855, proves although these levels are different on account of the destruction of tonnage during the war, that in 1855 the struggle began for keeping up the amount of tonnage in existence, without any prospect of increase; the irretrievable decline since 1878 verifying this conclusion. Therefore, the cause which checked the increase of tonnage before the war, was still in operation after the war, being not of a temporary but of a permanent nature.

That tariff reduction and bonded warehouse acts could not produce a sudden check in 1855 appears from the fact, that the foreign carrying trade flourished under these measures from from 1846 to 1855. The sudden arrest in 1855 of the unprecedented growth of the American merchant marine, is evidence that the operating cause sprung into existence at nearly the same time. And in this direction the cause must be sought in external occurrences.

Such an occurrence being the revolution which took place in 1854 in maritime affairs, establishing compulsory examination of masters and mates in all maritime countries, excepting the United States, and requiring vessels to be commanded by at least two examined officers. Henceforth examined officers being the rule and vessels with unexamined officers being rejected. The United States not participating in this progress and not coming up to the established standard, it is evident that this neglect is the cause of the decline of the United States merchant marine in the foreign carrying trade.

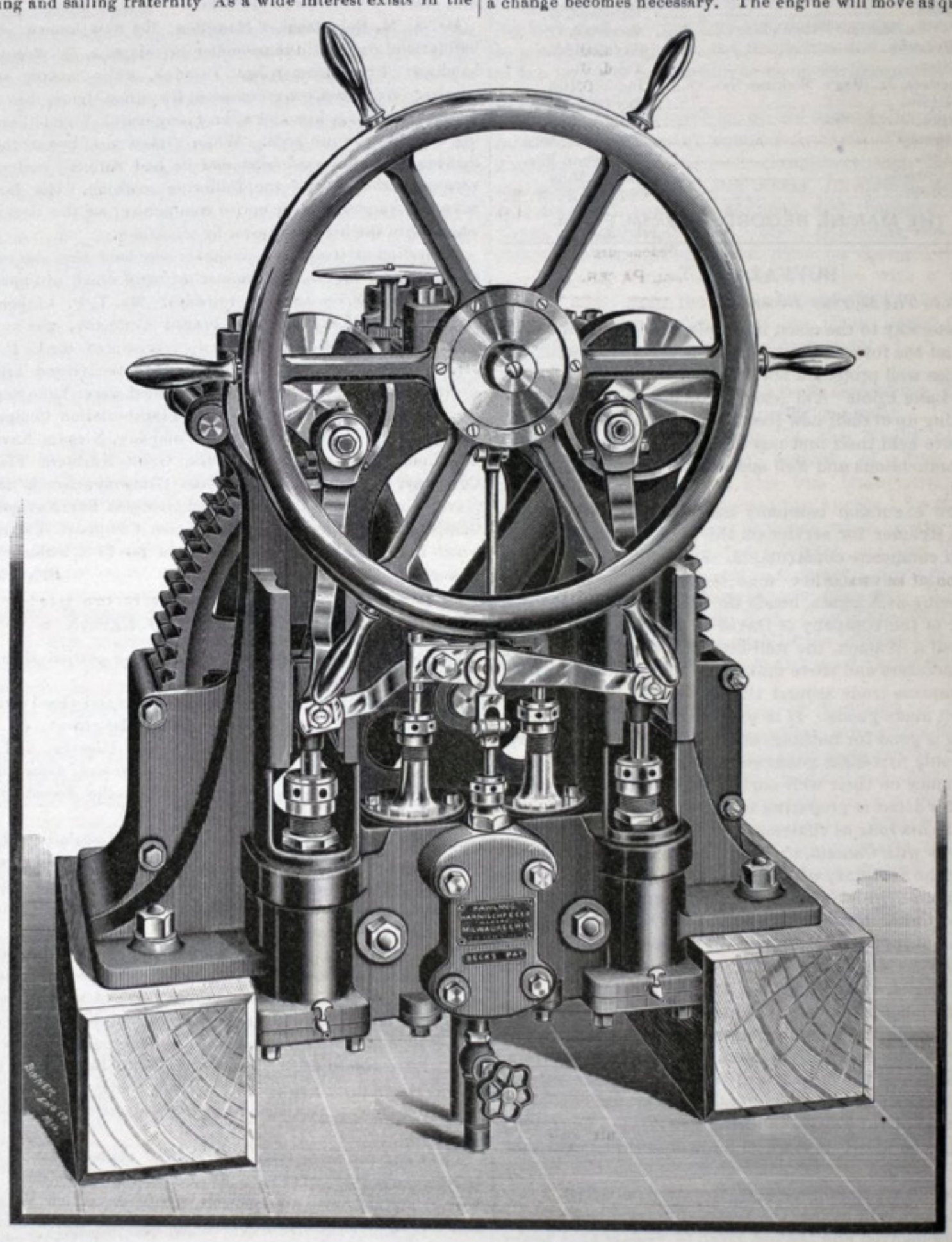
Nine-tenths of the worlds tonnage being commanded by examined officers and less than one-tenth, constituting the United States tonnage in the foreign trade, being commanded by unexamined officers; nine examined and one unexamined master always compete in the freight market; like nine trained and one untrained person looking for employment. As an every day experience no notice is taken of untrained people as long as trained hands are to be had. This well known law in the labor market applies to individuals as well as vessels, on account of which United States vessels are unable to find employment in the foreign trade. JOHN MAURICE.

"G. L. C." who is writing up the ship and engine building plants of the Great Lakes, quotes this compliment from the manager of the Lake Erie Engineering Works to Commodore Melville: "Richard Hammond declared in effect to-day that if Commodore Melville told him that a certain engine, when finished, would develop a stipulated horse power he would be willing to build that engine religiously on the lines laid down, and stake his reputation on the result coming out as stated by the Chief of the Bureau of Steam Engineering.—American Shipbuilder.

STEAM STEERING ENGINES.

NOTWITHSTANDING THE MANY STANDARD steam-steering appliances now on the markets of the world, the inventive genius of Americans keep in the van of modern improvements, and bring forth new plans and mechanism, which, to say the least, makes it a positive need for the established manufacturers of the engines to keep expert and skilled workmen on their staff, to plan, alter, and reconstruct the machinery which has stood the test and requirements for many years. The history of steering appliances, if only viewed from the hand purchase tiller system period, shows perhaps as great an advancement as in any branch of mechanism, and the 10,000 ton Atlantic Liner may now be controlled by exercising an ounce or two of pressure as compared to the four men struggles of only a few years ago.

The Pawling & Harnischfeger Machine Co., of Milwaukee, Wis., are the latest inventors of an American steam steerer which is said to fill the highest requirements of the service that a steam steerer may be called upon to undergo and the merits of which they are in the market to demonstrate to the vessel-owning and sailing fraternity As a wide interest exists in the adaptability of so important a piece of mechanism as the steam steerer. We herewith illustrate the "Beck Steam Steering Engine."



Its salient points are simplicity of construction, strength and compactness, without which no appliance could ever hope to make any headway against the excellent machines already in use. It would appear, however, that the "Beck Steam Steerer" is not an untried engine, the Milwaukee Tug Boat Line having fitted their entire fleet with the steerers, and a machine giving eminent satisfaction to the much handled tugs in use on the narrow waterways of our lake ports has all the endorsement which the general trade can demand.

From the information which we have been enabled to gather it is learned that for all tugs and other vessels which require to be handled quickly, the wheel is arranged to put the rudder hard over by giving it a single, or even a half turn when so ordered, but in other cases where it is desirable to keep the steering wheel movement uniform for both hand and steam, the machines are so arranged that no mistake can be made in steering when changing from one to the other.

The design is perfect and nothing but the very best of material and workmanship enter into their construction. All gears are machine cut from solid metal, and run absolutely smooth and noiseless. The two idlers on the machine are fitted with graphite bushes, and require no oil or attention. All stuffing boxes are made of solid bronze and will not rust or injure the rods when the boat is laid up for the winter, as is customary on the lakes.

The exact position of the rudder is shown by an indicator at all times, whether steering by hand or steam, and when the run of the tiller chain is given the machines are fitted with an automatic stop for hard-over positions of the rudder.

This engine may be placed in the pilot house, below deck, in the engine room or aft; or it may be placed flat on deck, and connected directly to the tiller, which arrangement will avoid the time of the usual long tiller ropes and sheaves, which requires constant attention. The No. 4 and 5 machines have been designed with special reference to being placed in the pilot house, and are always arranged for both steam and hand steering.

The change from steam to hand is made instantly, without loss of time or annoyance, which is very important when such a change becomes necessary. The engine will move as quickly or gradually as the hand wheel is moved, and will stop automatically at the very instant that the hand wheel stops.

Any overstrain of the rudder will cause the engine to open steam against the pistons to cushion the blow and fall back sufficiently to avoid accident or breakage, and the instant that the strain is off, the engine will return the rudder to its former position without any attention on the part of the wheelsman. It would thus seem that the merits of the standard steam steerers had been applied and improved upon in the several essentials required for a reliable steam steering engine, with the result, that the Beck Steam Steerer will soon be found to occupy a foremost place in the new tonnage of the lakes, and having stood the test given to such an appliance by a large and busy line of harbor tugs, there is little doubt of its future adoption by a majority of that class of tonnage, while the larger sizes are specially adapted for heavier vessels. It is a rule of the manufacturers, Messrs. Pawling & Harnischfeger, Milwaukee, Wis., to run their engines under steam before they are shipped from the works, so that perfect mechanical action is assured in each engine.

THE bill introdnced in the Senate by Senator Brice covers the ninth, tenth, and eleventh lighthouse districts. It carries a total of $900,000 for aids to lake navigation.

Notes.

THE interest in the study of navigation by lake sailors is continually increasing. The publishers of "A Manual of Navigation for the Lakes," are receiving orders for the book from all sections, including the Coast. Now is the time to study for the coming season. Send your orders to Bissell & Scrivens, Cleveland, O.

SENATOR CULLOM has presented a resolution in Congress in favor of an appropriation for the building of an iron or steel propeller, costing not less than $175,000 for use on Lake Michigan, to replace the revenue cutter Andrew Johnson, substantially worn out. House Bill 552 asks for pensions to be granted to certain officers and enlisted men of the life saving service.

A MASTER of a British steamer has been fined $19.20 by the Collector of Customs at Baltimore, Md. for bringing into port 90 bushels of wheat without entering it upon the ship's manifest. How this would apply on the "cut throat" bill of lading in use on the Great Lakes, it is somewhat difficult to see, as hundreds of bushels which would give the lie direct to a manifest are daily entered during the season of navigation.

CONGRESSMAN STEPHENSON has again introduced a bill for the survey of a canal to connect the waters of Lake Superior with those of Green Bay. The object is to make a passage for lake vessels from Grand Island on Lake Superior, to Little Bay de Nocque. The Whitefish river, flowing into Little Bay de Nocque, is only two miles distant, near its upper course, from a stream emptying into Lake Superior, and these rivers could be deepened, it is argued, and connected with great advantage to commerce. The distance thus saved between Milwaukee or Chicago to Duluth would be something like 270 miles.

THE Secretary of the Navy has appointed Commander A. S. Barker, Naval Constructor J. J. Woodward and Professor Lenox, of the ordnance department, a board to determine the best paint or composition for the protection of ship's bottoms against fouling or corrosion. The board is now in session at the Washington navy yard. It may be noted that experiments on the metal entering into the construction of the vessels is not included in the duties of the commission, nor in our mind need they be as they best way out of the dilemma is to discover a modern preventive and this is what the commission has been appointed for rather than to waste years in finding a metal that will not foul or corrode when exposed to the action of salt water in various temperatures.

The "Toledo Blade," in a comprehensive and pertinent editorial on the subject of lake levels, asks if the deep water channels will not ruin the lake harbors, and in support of this theory, advances the facts that the natural bottom elevations now found, at the extremities of the several lakes, are the surest safeguards to a continuous mean level. "A deeper channel, it is argued would give a greater outflow, thus maintaining the same level, as on leaving evaporation out of the question, it is plain that the amount of water flowing out of each lake is exactly equal to that flowing in. To deepen the outlet means then that more will be discharged in a given time than flows in; and this in turn means simply that the level of the lake will be lowered until the outflow is thereby diminished so that it again exactly equals the inflow." The entire subject is well worthy of the most careful consideration before any radical measures are taken which might jeopardize or involve lake transportation in any worse evils than existing ones.

THERE is a weather prophet called Dr. Hall, with a local habitation and a name, in Carbondale, Pa., who appears to be something of a character. At any rate, what he decides may bring some consolation. This is the way he figures it out, "I reckoned we'd have some snug winter weather 'long about Christmas time, and I begin to see now that the old signs is just as good this year as they was fifty years ago. It worked a little slower than it sometimes does, but it's gettin' around all right after all. For two or three weeks I was ready to 'low that I'd got the figgers and the wind and the moon kinder mixed a little, but I see now that I was right all the time, and the trouble was all with the weather regulator who'd got his time table turned end for end. It's all right now, and like as not we'll have two months o'good sleighin,' and just the kind o'winter weather to make things lively. Good for the coal trade? Well, I reckon so, but I don't believe in meddlin' with what I don't understand. My trade is stone cuttin' and mason business, and I don't meddle wih anything else 'cept the ager, malary and weather, and I ken nock 'em every time, sure as you're born."

LAKE SHIPBUILDERS.

Our esteemed contemporary the New York *Maritime Register* points out in its latest issue the following pertinent facts: "The Great Lakes and the ocean are no longer wide apart. When it was proposed to send a lake built steamer to the salt sea, the scheme was laughed at. Now lake built steamers are in the ocean trade. Whaleback steamers from the lakes are to be put in the Pacific Coast trade. A lake built yacht is now at New York, ready for a trip around the world. Indeed, as we have before observed, it is only a question of time when our lake shipbuilders will be competing with those on the coast for steamers for the over sea carrying trade."

ON LIGHTHOUSE CHARACTERISTICS.

ON FLASH LIGHTS—When it was determined to choose periods the same, or nearly the same, for neighboring flash lights, it was found necessary to add distinction by color, objectionable as this is if not enforced by necessity. Without greater accuracy than is generally to be found in the time-keeping of flashing lights, even on shore, the distinction between fifteen and twenty seconds could scarcely be relied upon as given by the mechanism, and even if given trustworthily by the mechanism, the distinction could only be discovered by the sailor with certainty by the aid of a chronometer, the use of which is out of the question as a practical means for recognizing a light when seen. To give sufficient distinction between these two lights, therefore, it was found necessary to use color.

The insufficiency of the distinction of flashing lights, merely by length of period, had come to be felt so strongly that a very important fresh distinction was introduced in 1875. The great thing, however, is to find how lights may be most surely and inexpensively rendered distinctive, so that no sailor, educated or uneducated, highly intelligent, or only intelligent enough to sail a tramp through gales, snow-storms, and fogs, may know each light as soon as he sees it, without debt or hesitation.

This object is fully attained by the triple flashing light, if quick enough. But the lights now in use are too slow to do full advantage to the triple flash system. When one of them is first seen, it is very apt to be confounded with an ordinary "revolving light"—that is, a single-flash flashing light. Even somewhat careful watching—at all events if the weather or the distance from the light be such as to leave any room for doubt, does not always immediately resolve the doubt.

The satisfactory distinctions of group flashing lights are exhausted in the groups of two or three or four flashes; because to count five or six, or more, would be embarrassing and liable to mistake at sea. It has been proposed to obtain further distinction by using groups of longer and shorter flashes; but there are optical difficulties in the way of making, with satisfactory economy, groups of long and short flashes, separated by short intervals of darkness in the group, and comparatively long intervals of darkness between successive groups; and considering how very much more useful and satisfactory at sea is a lighthouse showing long light with short intervals of darkness than even the quickest of flashing lights, it does not seem desirable to push the distinctions of flashing lights further than the double, triple and quadruple groups.

Experiments alone can answer decisively the question whether, with equal maximum brilliance in each flash, a flash of quarter-second duration recurring every two seconds, or one of half second recurring every four seconds, or one of one second recurring every eight seconds is the most easily to be seen at a great distance, or in hazy weather. From physiological experiments already made, it has been concluded that one tenth of a second is a long enough time to fully excite the sensibility and perceptive power of the eye, and it seems probable that rapidity of recurrence of the contrast between light and darkness will give a positive advantage to the quicker flash in respect to perceptibility, even when the observer knows in what direction to look for the light; and when he does not know in exactly what direction to look, which is the practical case of a sailor at sea trying to pick up a light, shortness of the time of invisibility is of supreme importance. All things considered, it seems most probable that the quarter-second flash recurring every two seconds will be very much more easily and surely picked up practically at sea than a flash of one second recurring every eight seconds.

Before passing from this subject of flashing lights, I may be allowed to say that I first received my impression of the vital importance of quickness in a light from a very practical man—the man who, in 1866, showed us within a quarter of a mile, in mid-ocean, where to find the cable which had been laid and lost in 1865—Captain Moriarty, R. N. I well remember when on one occasion, either in 1858, or 1865, I do not know which, in making the Irish coast in dirty weather, he said:

"Those lighthouses should flash out their characters like your electric signals; every lighthouse should flash many times in a minute, showing you which lighthouse it is every time. That long minute of the revolving light has often seemed to me like an age, when I have been anxious to find out where we were in a gale of wind and rain.—(TO BE CONTINUED.)

FIXED LIGHTS—The fixed light has a great advantage in respect to practical usefulness over the flashing light, in being always visible. The superior brilliancy produced by optical condensation of the revolving light is, in some respects, dearly bought economy, when the great diminution of usefulness to the sailor, in its comparatively long periods of darkness, is taken into account. Theorists who praise the revolving light unqualifiedly for its superior penetrative power seem to forget the counterpart in optics to the great principle in dynamics—that which is gained in power is lost in speed; in flashing lights what is gained in brilliancy is lost in time of invisibility. The painfully anxious scanning of the horizon for a one-minute flashing light, is known to everyone who has ever had occasion to look for one in practical navigation; and the comparative ease of picking up a fixed light, and keeping sight of it when it is found, in difficult circumstances, is thoroughly appreciated at sea by sailors. Still, if the revolving light can be seen at all, whatever be the difficulty in picking it up, and whatever the annoyance of losing sight of it and having to pick it up again, it has fulfilled the object of a lighthouse. All are agreed in the maxim that "the grand requisite of all sea lights is penetrative power;" and if the fixed light cannot be seen at a distance, or in weather in which the revolving light is seen, the fixed light has failed, and the revolving light has done its work for the occasion. It depends very much on the special circumstances whether the same quantity of light, given out uniformly as a fixed light, or condensed and given out in flashes, with comparatively long intervals of darkness, as in the revolving light, is better in respect to being seen. In stormy or variable weather, with heavy showers of rain or snow, the fixed light is much safer than a one-minute revolving light of much greater absolute brilliancy; as several successive flashes of the revolving light may be lost through passing showers, while the fixed light loses no chance of being seen in intervals between the showers. On the other hand, in hazy or fogy weather of tolerably steady character, a revolving light can be seen efficiently at a great distance than the same absolute quantity of light, given out uniformly as a fixed light.

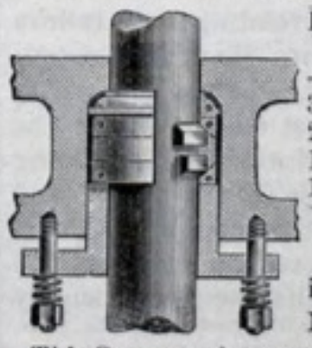
The great defect of fixed lights at present is the want of characteristic quality by which the sailor, when he sees a light which really is a lighthouse light, may immediately feel sure that it is so, and not a steamer's mast-head light, nor a trawlers or fishing-boat's light, nor a light on shore other than a lighthouse light, and that knowing it to be a lighthouse, he may know exactly which of two or more possible lighthouses it is. The need for thorough-going remedial measures to remove this defect has been more and more felt of late years, and is now very generally admitted. Unless a second light is to be added, or the generally objectionable expedient of color for distinction is in any particular case to be admitted, the only systematic means of giving characteristic quality to a fixed light is by means of occulations or eclipses; and hence the origin of the "occulting" or "eclipsing" light.

The important question is now to be met—how may eclipses be best arranged to give the requisite number of characteristic distinctions, for the large number of fixed lights on our coasts which need distinction, with as little as may be of interference with the valuable quality of fixity? The answer, I believe, is by groups of eclipses described as follows: First—one, two, three, or four very short eclipses, say of not more than one second each, separated by equal intervals of light in the group, and the groups of eclipses following one another after intervals of not less than eight seconds of undisturbed bright light; next groups of two or three short and long eclipses, the short eclipse one second, the long eclipse three seconds, the interval of light between the eclipses of a group one second, and the interval of undisturbed light between the groups of not less than eight seconds. I fixed upon the time one second, because, after many trials of mechanisms to produce the eclipses, I found that I could produce all the groups of eclipses at the rate corresponding to one second for the short eclipse by a simple and inexpensive machine applicable to any lighthouse, large or small, and of any variety of optical arrangement, whether merely with condensation to the horizon, or with the additional appliances required to condense into a particular azimuth.

FORREST SILVER BRONZE PACKING.

IN ORDER TO ANSWER ALL THE NUMEROUS ENquiries as to the price of Forrest's Silver Bronze Packing and where it can be obtained, we have secured their price list which we publish with the address of the Company for the benefit of our subscribers engaged in mechanical pursuits.

PRICE LIST OF FORREST SILVER BRONZE PACKING.



Diameter of Rod.	Solid.	Sectional.
3 in & over	$8 per in	$12 per in
2 in to 3 in	10 " "	14 " "
1½ in to 2 in	12 " "	16 " "
1 in to 1½ in	14 " "	18 " "

All under one inch reckoned as one inch. Address No. 115 Liberty street, New York City, U. S. A.

This Company has successfully packed thirty-four extensive plants during the last month, among which are the steamers Caribbee, Guyandotte, Maryland and Albany. These boats could not find any other packing to hold their rods tight before. These are only a few of their steamboat jobs, and mentioned because of their heretofore difficult nature. Also the elegant new triple expansion plants of the Edison Electric Illuminating Co., at 49 West 26th street, New York city, and Paterson, New Jersey, and the Municipal Electric Light Co. 310 Penn street, Brooklyn, New York, and several other electric light high speed engines, also the Watts-Campbell engines, at the New York Biscuit Co., 9th avenue and 15th street, New York, a pair of the best Tandem engines in the superb engine room at that address, also the electric light plant of the New York and Brooklyn Bridge. It has supplanted the metallic packing heretofore used by the Social Manufacturing Co., Nourse Mills at Woonsocket, R. I. Shipments have been made to Rotterdam, Holland, as well as to many domestic places from Maine to Oregon. Its users are all willing at any time to show its excellent performance. Owing to the great favor with which Forrest's Silver Bronze Packing is being received throughout this country and Europe, it has become necessary to increase the size of their already large plant, and now any orders that are sent will be executed with the utmost promptness.

The Marine Record.

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☞ Subscribers and others are respectfully invited to use the columns of THE MARINE RECORD for the discussion of pertinent topics and all matters relating to the welfare of the Lake Marine. N. B.—We do not hold ourselves responsible in any way for the views expressed by our correspondents. Contributions must in every case be accompanied by the full name and address of the writer, and be at this office not later than Wednesday morning.

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Pertaining to the Editorial and Business Departments of THE MARINE RECORD should be addressed,

"SMITH & SWAINSON,
148 SUPERIOR ST.,
CLEVELAND, OHIO."

CLEVELAND, O., JANUARY 21, 1892.

THE complaints from subscribers relating to the failure to receive the past few issues of THE MARINE RECORD as regular as usual, has been due to the immense quantity of postal matter crowding the post offices during the holiday season. The postal authorities do and are doing all that known ingenuity can devise for the proper and punctual handling of the mails so that "kicking" is somewhat out of order at this time; however if our readers will specify the copies not received we shall be glad to supply the missing copies.

WE have on former occasions reverted to the premature closing of lake navigation by the action of the marine underwriters, it is possible that before the new code for 1892 is formulated an extension of time at a moderate premium may be included in the season's risks. The present flurry of snow and low temperature has evidently satisfied the geographical aberration scientists that the 42nd parallel of latitude is still about 48° from the North pole, yet, this being the case there is no telling how balmy or tempestuous the weather may be during the first half of December next.

EIGHTEEN resignations from Lloyds, London underwriters rooms, and a widespread feeling of dissatisfaction in New York marine insurance circles, with consolidations, amalgamations and general revising of marine business in home offices, show pretty clearly to the outside business world the round up of a line of policy, which however satisfactory it may have been to the assured, has pinched the financial portion of the anatomy, so to speak, of the assurers. Lake hull risks, or the cream of it, has drifted into foreign hands, a somewhat aggressive an inclusive policy having been framed and carried out with this end in view, however, there has been some squealing done and it is possible that with well advised measures the home companies might again secure the major portion of the hull risks.

THE DEEP WATER CHANNEL.

The Toledo *Blade* of recent date contains an editorial on the question of the best means of maintaining the present commerce of the lakes as opposed to dredging a twenty or twenty-one foot channel throughout the connecting fairways. A communication from a prominent citizen of Toledo also bears on the same strain, arguing that to dredge away the lips of a basin is the surest way to cause a lower level and that the surface will fall, in an equal ratio to the bottom dredging.

The same theory has long been advocated by a prominent Cleveland vessel-owner whose modesty has prevented us on former occasions from using his name in connection with this theory which has been frequently advanced, and while deepening the channel at the Lime Kiln Crossing the same reason and arguments were held forth.

A Buffalo paper treats the subject very cavalierly and dismisses the whole question by terming it an exploded notion. While not believing the theory to be tenable, we are far from ridiculing the stand taken by the Toledo *Blade*, and would eminently agree with all stated in the article if the existing conditions were not slightly warped by the statement as set forth in that paper.

The deep water channel would but form into line a body of shoal water now un-utilized and by confining its surface area give the required depth with the greatest economy of waste, inasmuch, as the water in motion seeking its level would flow over a less area, and with regard to the contour of the bottom probably economise on the outflow more than has been experienced during the lowest levels of which we have any record.

It is quite pertinently stated that "the Great Lakes are enormous depressions in the earth's surface—each a vast bowl scooped out of the rock crust. Where the rocky brim is lowest, the water passes over, and finds its way to the next lowest lake, and so on. Lake Superior stands at the highest level; the rocky channel of the Sault Ste. Marie is the barrier that holds its waters at a higher level than that of Lakes Huron and Michigan, whose level is the same. Then comes the lip of this double basin, the St. Clair and Detroit Rivers, through which their overflow pours in Lake Erie. Niagara is the rock-lip of Erie, over which the water plunges into Ontario; and the rocky bed of the St. Lawrence presents a long inclined plane over which it descends until it reaches the sea-level.

It is plain that the maintenance of the present water-level in each lake depends upon the permanence of the rocky lip over which its waters disappear," all of which is quite to the point and if the entire lip was dredged away on *an inclined plane* a consequent surface depression and swifter current would be manifest at all points inside of that lip.

To further impress its views our Toledo friends demonstrate their position as follows: "The amount of water discharged through a given channel depends upon the area of the cross-section. To deepen the channel of course increases this cross-section, and consequently increases the volume of water flowing through it. To illustrate: A channel 500 feet wide and averaging fifteen feet in depth has a cross-section whose area is 7,500 square feet. To deepen that channel to an average of 25 feet would increase this cross-section to 12,500 square feet, and increase the amount of water flowing through it by two-thirds! But the cross-section could be kept the same by reducing the width of the channel to 300 feet. Hence, wherever the channel is deepened there should be a proportional narrowing of it by artificial structures." And this is the identical manner in which we opine the twenty-foot channel would be carried out, for the excavation of a foot or five feet in the wake of the channel would simply be moved and take up the same displacement outside of the channel or fairway and on account of the dredging, a channel it may not be an impossible feature to prove that the current through the channel while being of greater velocity than formerly in that section, yet actually consumed less water on account of the motion being retarded at other points, or that less water flowed through the channel than formerly escaped over the whole expanse.

The views advanced on this question must at all times be superficial, or mere opinions, unless a thorough study of the contour of the bottom is entered upon. As in some instances it would be possible to obtain fathoms instead of feet and still not draw on the source for any greater supply, yet, even to have such views advanced should only serve to place the student or professional on his guard, an immense volume of water is destined to be withdrawn from Lake Michigan through the construction of the Hennepin Canal where a three or four mile current is to force its way to the Mississippi, and yet eminent men who have made a special study of the hypothesis assert that no land will be reclaimed on account of the immense outflow, while others have equally maintained that our source of supply, viz: Lake Superior, may contain water enough to float the largest tonnage when the lower lakes become valleys with simply a purling luxuriant stream winding through them to remind future generations of what had been, this perhaps at the time when the telegraph plateau of the North Atlantic will also be transformed into a carriage drive for taking an afternoon's spin to Europe on the electro-magnetic-overhead rapid-transit-line. A few centuries before this however, the largest and finest canals that ever existed on this planet will have been formed to facilitate the commerce of the northwest and until this time arrives duplicate deep water channels may assist the grandest inland navigation ever known in the history of mankind.

THE EXCELSIOR MARINE BENEVOLENT ASSOCIATION.

The Association of lake shipmasters convened under the order and workings of the E. M. B. A. and now maintained at all of the principal lake ports, is one of the greatest steps in advancement ever taken in the marine community of the world.

There has been powerful and well organized associations formed in various parts of the world, dating say from the Mercantile Marine Service Association of Liverpool in 1857, and now more prosperous than ever, to the later inauguration of the marine officers association at Shanghai, but, they are and have always been local in their influences, not so however with the E. M. B. A. whose councils or lodges now extend over the chain of lakes and according an inestimable benefit to its members who are composed exclusively of men holding masters licenses in steam.

The Supreme Council of this important organization holds its annual convention in Cleveland this week, at which delegates from all lodges will attend for the transaction of Association business, and in honor of the occasion the Cleveland members have arranged to hold their annual ball after the first day's session, viz: on Thursday night. A most enjoyable time is assured for the visitors, and THE MARINE RECORD heartily joins in welcoming old friends and arriving guests to the Forest City.

ORE CHARTERS.

The Marquette rate for ore is now quoted at $1.25 and brokers are hustling to close business on these terms though local vessel owners are none too anxious and generally seem to hold off just at present knowing that a brisk opening is assured. Some Lake Superior ore tonnage was placed during the past few days to load for Lake Erie ports at $1.25 a ton, which would, with good water at the "Soo" be a fair rate. Most of the tonnage placed at that figure is owned by the ore companies and only, a few outside vessels have been chartered. Parker and Millen of Detroit put in some tonnage at the above rate. Tonnage between Two Harbors and South Chicago have been chartered at $1.25. So far as can be learned no Escanaba charters have been closed though $1 is quoted for opening rates.

CHICAGO, ILLS.

Special Telegram to The Marine Record.

The Ball given by the Excelsior Marine Benevolent Association, on Wednesday night, was a tremendous success. The Hall was thronged and the greatest enthusiasm prevailed. The Association of Captain's is a Chicago institution henceforth. WILLIAMS.

A STRANGE HALLUCINATION.

A singular mental abberation has afflicted Capt. Chambers which somewhat puzzles the medical talent at this time, and the subject of which is Capt. Benjamin Chambers, of Cleveland, a man of magnificent physique, a most popular lake captain and a prominent member of the Excelsior Marine Benevolent Association. Last June his steamer Queen of the West, collided with the Columbus street bridge and a man was killed. Capt. Chambers was arrested and honorably acquitted in the police court. But the coroner found him to blame. Later the relatives of the dead man filed suit in the common pleas court against the boat's owners for the death of their relation, and in the petition threw the blame on Capt. Chambers. The thing has weighed on his mind and unbalanced him. Of late he has been willing to talk of nothing else, and within the past few days he had reached almost a point of mania on the subject. It was therefore considered advisable to place the Captain under temporary control, and one of his best friends, Capt. William Mack filed a complaint of lunacy and he and Capt. Richard Neville drove Capt. Chambers to the probate court ostensibly to look for Harvey D. Goulder, the admiralty lawyer who Capt. Chambers was willing to meet. After the necessary papers were drawn up the Captain was lodged in the asylum at Newburg, O., where, under proper treatment the doctor says he will regain his best reason.

The utmost sympathy is felt in marine circles for the sufferer and his family, though the host of friends which Captain Chambers has always held, will do much to soften the hard trial which they are now undergoing.

STATUTE MILES IN NAUTICAL COMPUTATIONS.

DETROIT, MICH., January 19, 1892.

To the Editor of The Marine Record.

From his lengthy reply to "Surveyor" in last issue of THE MARINE RECORD it appears, that Mr. Pearsons "fails like the rest of us by mistaken and imperfect ideas of his subject."

He tells us, that a meridian minute at the equator is 6,087 feet and in 80 degrees of latitude 6,072 feet, the mean of which 6,080 feet having been adopted as the length of a nautical mile, "making it very unfit for a unit of distances, where precision is required, as on the lakes." According to Prof. Young's nautical tables, a meridian minute at the equator is not 6,087 feet but 6,045 feet, at the pole 6,106 feet, in 45 degrees of latitude 6,076 feet. Therefore the greatest difference in length of meridian minutes is not 15 feet but 61 feet. But apart from this, if 6,080 feet have been adopted for the sea-mile, there is, as respects the lakes, only a difference of four feet in a mile, which signifies nothing in determining the position of a vessel. On a stretch of 100 miles it would make only 400 feet or a ship's length.

Further, are we gravely told, that "as the average of a minute of a degree on the meridian up to 15 degrees of latitude is 6,047 feet, the United States Navy has adopted 45 feet as the distance on the log line for one knot, when used with a 28 second glass." Such facts do not enlighten anybody on the subject under discussion, why nautical miles should not be used on the lakes. It is an old custom with all nations to take 22½ feet English as the length of a knot to a 14 second glass, which makes the length 45 feet for a 28 second glass. In substituting a 14 second glass for a 15 second glass, one second is allowed for turning the glass at the start and one second for stopping the log line when the glass is run down rated at 7 per cent; for drawing the log towards the ship 2 per cent is deducted, and to be ahead of ship with reckoning, 2 per cent makes together 11 per cent, which deducted with 2.8 feet from the length of 25.3 feet for 15 seconds, leaves 22½ feet as length for one knot and a 14 second glass.

The absurdity of using statute miles in nautical computations appears from the fact, that no computations can be made with reference to place, in which statute miles have not to be reduced to nautical miles at the beginning or at the end of the reckoning. The climax however is reached in the sentences: "But on the lakes we have no nautical astronomy. The Government has done all this work better than we could hope to do it. Every lighthouse is an illuminated monument of known place. Moreover, we have standard time established, so that we have absolutely no use for nautical astronomy on the lakes; and as a consequence, no use for the nautical mile of variable and uncertain length." To which need only be added, every pebble stone on the Great Lakes tells its own story. Lighthouses are always monuments of known place not only on the lakes. The question with navigators is not to find the lighthouse, but to find the place the ship is in as John Maurice says; and the question is not what time it is according to standard, but what time it is aboard ship. A dozen chronometers showing standard time avail nothing in navigation if ship time is not known; which can only be found by astronomical observation. He must be a peculiar kind of a navigator who thinks by carrying a watch keeping standard time in his pocket, his vessel will be safe.

SPECTATOR.

LEGISLATION IN THE INTERESTS OF THE LAKE MARINE.

The following Bill was introduced in the House on January 15th by Mr. Vincent A. Taylor providing for sundry lighthouses and other aids to navigation.

LAKE ONTARIO—On Galloo Island, a steam fog whistle, at a cost not exceeding five thousand seven hundred dollars.

On the head of Carlton Island, a lighthouse, at a cost not exceeding eight thousand six hundred dollars.

On Bay State Shoal, at the cross over, lightship, at a cost not exceeding eight hundred dollars.

LAKE ERIE—On the breakwater at Buffalo, a steam fog whistle, at a cost not exceeding four thousand three hundred dollars.

At the entrance to Erie Harbor, Pennsylvania, a steam fog whistle, at a cost not exceeding four thousaud three hundred dollars.

At Fairport Harbor, Ohio, a steam fog signal, at a cost not exceeding four thousand three hundred dollars.

At Lorain Harbor, Ohio, a steam fog signal at a cost not exceeding four thousand three hundred dollars.

At Huron Harbor, Ohio, a steam fog signal and range light on pier, at a cost not exceeding four thousand seven hundred dollars.

On Starve Island Reef, south passage, Lake Erie, a light, at a cost not exceeding eight thousand six hundred dollars.

For re-establishing light at Port Clinton, Ohio, at a cost not exceeding one thousand five hundred dollars.

For moving range lights, Maumee River, Ohio, so as to properly light the new channel, at a cost not exceeding—dollars.

DETROIT RIVER—For a lightship of suitable pattern, to take the place of the private lightship now maintained by vessel owners at Bar Point, and to be located in American waters at a point to be determined by the Lighthouse Board, at a cost not exceeding fifteen thousand dollars.

At Limekiln Crossing, Detroit River, two lights, at the northwestern and southwestern corners of the cut, to replace private lights now maintained at these points by vessel owners, at a cost not exceeding—dollars.

At Ballards Reef, Detroit River, a lightship with fog bell, or a light on cluster of piles, to replace private light at this point, at a cost not exceeding three thousand dollars.

On Grosse Isle, Detroit, range lights to center the channel from the foot of Fighting Island to Mamajuda Light, at a cost not exceeding two thousand five hundred dollars.

On north end Mamajuda Island, a light to range with the present light on Mamajuda Island, to mark channel between Grassy and Mamajuda Islands at a cost not exceeding one thousand five hundred dollars.

For range lights above Grassy Island, Detroit River, at a cost not exceeding one thousand five hundred dollars.

LAKE HURON—On Scarecrow Island, a light and fog bell, at a cost not exceeding fifteen thousand dollars.

On Middle Island, a light and fog signal, at a cost not exceeding twenty-five thousand dollars.

On Poes Reef, Straits of Mackinaw, a lightship of suitable pattern, at a cost not exceeding fifteen thousand dollars.

On Graham Shoal, Straits of Mackinaw, a lightship of suitable pattern, at a cost not exceeding fifteen thousand dollars.

On St. Martins Reef, head of Lake Huron, a lightship of suitable pattern, at a cost not exceeding twenty thousand dollars.

At Forty mile Point, a light and fog signal, at a cost not exceeding twenty-five thousand dollars.

ST. MARYS RIVER—For moving upper St. Marys ranges, at a cost not exceeding five thousand dollars.

For lightship above Round Island, at intersection of ranges, at a cost not exceeding ten thousand dollars.

LAKE SUPERIOR—At Crisps Point, a light and fog signal, at a cost not exceeding twenty-five thousand dollars.

At Grand Marais, a light and bell, at a cost not exceeding fifteen thousand dollars.

At Big Sable Point, a fog signal, at a cost not exceeding five thousand five hundred dollars.

At Big Bay Point, between Granite and Huron Islands, a light and fog signal, at a cost not exceeding twenty-five thousand dollars.

At Point Abbaye, entrance to Huron Bay, a lightship and bell, at a cost not exceeding fifteen thousand dollars.

At Traverse Island, a light and fog signal, at a cost not exceeding twenty thousand dollars.

At Mendota, Bete Grise Bay, re-establish light and bell, at a cost not exceeding seven thousand five hundred dollars.

At Eagle Harbor, a fog signal, at a cost not exceeding five thousand five hundred dollars.

At Sand Hills, twelve miles west of Eagle River, a light, at a cost not exceeding twenty thousand dollars.

Eagle River light to be discontinued.

At Portage Lake ship canal, a fog signal at a cost not exceeding five thousand five hundred dollars.

At Fourteen Mile Point, a light and fog whistle, at a cost not exceeding twenty thousand dollars.

For moving main Chequamegon light and establishing fog signal, at a cost not exceeding seven thousand five hundred dollars, and for harbor light and bell, Chequamegon, at a cost not exceeding two thousand five hundred dollars.

On Gull Island, Apostle Group, a light and bell, at a cost not exceeding ten thousand dollars.

At Devil Island, to complete light station, at a cost not exceeding twenty-two thousand dollars.

At Bark Point, a light and fog whistle, at a cost not exceeding fifteen thousand dollars.

At Bayfield, a pier light and bell, at a cost not exceeding five thousand dollars.

Superior Bay lights, at a cost not exceeding one thousand two hundred dollars.

At Pats Point (near Grand Portage,) a light and fog whistle, at a cost not exceeding fifteen thousand dollars.

At Rock of Ages, a light and fog signal, at a cost not exceeding one hundred and twenty-five thousand dollars.

At Rock Harbor, re-establish light and establish fog signal, at a cost not exceeding ten thousand five hundred dollars.

LAKE MICHIGAN—At Round Island, Straits of Mackinaw, a light and bell, at a cost not exceeding fifteen thousand dollars.

At Seul Choix Point, a fog signal, at a cost not exceeding five thousand five hundred dollars.

On South Fox Island, a fog signal, at a cost not exceeding five thousand five hundred dollars.

On north end North Manitou Island, a light and fog signal, at a cost exceeding twenty thousand dollars.

On southeast point North Manitou Island, a light and fog signal, at a cost not exceeding twenty thousand dollars.

At Frankfort Harbor, a bell, at a cost not exceeding one thousand dollars.

At Ludington, a fog signal, at a cost not exceeding five thousand five hundred dollars.

At St. Joseph, a fog signal, at a cost not exceeding five thousand dollars.

At Manitowoc, a fog signal, at a cost not exceeding five thousand five hundred dollars.

At Sturgeon Bay Canal, a light at a cost not exceeding twenty thousand dollars.

At Port Des Mortes, range lights and fog signals, at a cost not exceeding twenty one thousand dollars.

At Rock Island, a light-ship of suitable pattern, at a cost not exceeding twenty thousand dollars.

At Saint Martins Island, a light, at a cost not exceeding fifteen thousand dollars.

At Little Gull Island, a light and fog signal; at a cost not exceeding twenty thousand dollars.

At Point aux Barques, a light and fog signal, at a cost not exceeding twenty-five thousand dollars.

At Squaw Point, Little Bay de Noque, a light, at a cost not exceeding five thousand dollars.

At Peshtigo Shoal, Green Bay, a light-ship with fog whistle, at a cost not exceeding ten thousand dollars.

That the sum of sixty thousand dollars heretofore appropriated by act of Congress, August thirtieth, eighteen hundred and ninety, for the building of a lighthouse on Eleven Foot Shoal, Green Bay, be applied under the direction of the Lighthouse Board, for the purchase of four light-ships of suitable pattern; one of said light-ships to be stationed at or near Eleven Foot Shoal, one at or near Drisco Shoal, one at or near Poverty Island Shoal, and one at or near Whale Back Shoal.

Mr. Crain introduced the following bill to compel owners of steamers to supply fresh air to the engine room: Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, that every owner of any steamer navigating the ocean, or any lake, bay, sound or river of the United States, shall provide proper ventilation for the engine rooms of said steamer so that they may be always supplied with fresh air; and every owner of any such steamer who neglects or refuses to comply with the provisions of this act, shall be fined one thousand dollars.

TRANSPORTING VESSELS.

There is a class of men who don't seem to recognize the fact that vessels are built to float in water. The very name puts them on their mettle to discover a process whereby a vessel may be carted overland, run into a cradle, placed on a sled and steadied thereon by sky tackles, shoed and trotted around like a broncho or mustang, transported over bridges and under arches by the aid of winged purchases, or lifted bodily from their natural element and sent sliding over the country until they perchance smell the water again and seek to cushion in the fluid which of right belongs to them, all of which may be accomplished some day, but not under the structural rules in force for vessel building at this date.

It is now learned that H. G. Ketchum, engineer of the Chignecto ship railway, has submitted to the Canadian government a scheme by which he says vessels drawing upward of 20 feet of water, can be pushed through the present St. Lawrence canals from Port Arthur to Quebec, and through the Soo canal now being excavated, without deepening the canals or enlarging the locks, thus obviating the expenditure of millions of dollars upon canal deepening. Mr. Ketchum proposes that large vessels be placed upon steel rafts or pontoons, and thus floated through the canals and over river shallows, the vessels to be placed upon the pontoons by means of hydraulic lifts established at the entrance of each canal. He says $500,000 would provide pontoons and lifts for all the existing canals; but these lifts could be used as graving docks; but little time would be lost in placing the vessels upon the floats, and that the plan has been successful elsewhere.

DEEPENING THE LAKE WATERWAYS.

Among the many plans for securing a better mean draft of water than now obtains on the lakes, dredging has been held by excellent authority as being the most reliable. The fact that this process is not unanimously endorsed has been shown from time to time in these columns, and it has even been stated that dredging would tend to lower the level by creating a greater waste than exists at present. This latter view is shared in by Samuel R. Backus, of the well-known grain and elevator firm of Toledo O., who, in a recent communication to the *Toledo Blade*, advances the following statement:

"That all agitation of any improvement of our lake interests should be foremost to everyone interested therein, is true, but that all ways are the correct ones, I cannot agree. While fully concurring in the efforts to enlarge the carrying capacity of our great chain of lakes, I have seriously considered a state of affairs that perhaps has been overlooked; and if my ideas are correct, I think they are founded upon facts, are not the people making an error in their efforts to obtain a deeper waterway for the waters connecting our great lakes?

My position is this: that while the river obstructions now act as a natural dam, and by a wise provision of nature, are of such durability, that the wear and tear of centuries have scarcely made any impression on them, will not the people, by arbitrarily deepening these channels, simply open wider the sluice gates of these great natural reservoirs of our land, thereby drawing the water off from them, only to bring it into Lake Erie, and there go to swell the already tremendous rush of water at Niagara Falls, which as a spectacle is grand, but as the waster of the elements that go to make up the lake commerce of all our lake cities, by lowering the level of the water in lakes Huron, Michigan and Superior, is a success, and at the same time lowering the water in all the harbors of the lakes.

Look at Chicago! Reduce the sluice gates, (for the rivers and channels are only the sluice gates of our lakes) three feet, and you reduce the level of the water in the Chicago harbor three feet, and have practically caused the ruin of the very advantage of what these efforts now being made, are to accomplish.

These are my objections to the plan. I, like all, have a remedy; for greater capacity, and attaining greater economy in carrying, are the objects to be attained. For that we are in the infancy of our lake marine interests, every thoughtful man will admit, and my remedy is simple; build the boats wider and longer, and then direct all efforts towards the United States government to cease the ruinous custom of saying that navigation on our great lakes shall arbitrarily close upon November 30, and that all stake and light boats shall be pulled off, and all range lights and lighthouses shall be closed, and the employes thereof be given a vacation until the balmy breezes of spring thaw them out.

Where would the commerce of the world be, if the same rule prevailed upon the ocean, and wherein is the difference? Since the 30th. of November our lakes have been arbitrarily closed, and the dangers of navigation have been no more serious than those of April or May, and during this entire term of 30 days, the whole lake industries have been closed.

The harvest of the year commences to move during July, and for five months continues without interruption, and without this arbitrary rule would have continued 30 days longer, or one-fifth of the entire time for moving the harvest, The lakes are still open, and this is not an exceptional year, as the weather of the past years will demonstrate.

THE RIVER AND HARBOR BILL.

The River and Harbor Committee is holding daily sessions to complete the first draft of the Bill which is to be used as a basis upon which to work. The estimates of the Chief of Engineers aggregate over $60,000,000, and the committee is scaling these estimates down two-thirds in order, if possible, to keep the Bill within the limit of $20,000,000. Col. Haynes says the committee shows a disposition to treat the lakes with fairness, notwithstanding the pressure from other sections of the country. Although the hearings will be closed early in February he does not think the Bill will be completed before March 1st.

Literary Notices.

John Wiley & Sons, Scientific publishers, 53 East 10th street, New York, announce as in preparation "Elementary Lessons in Heat," by Professor D. E. Tillman, United States Military Academy. "Elementary Course in Theory of Equations," by C. H. Chapman and Johns Hopkins.

Those of our readers who may desire a legal representation at Washington at any other time during the year, or when Congress is in session, could not intrust their interests into better hands than the well known firm of Conger & Conger, ex-Senator Omar D. Conger, the senior of the firm, is thoroughly conversant with all phases of Congressional legislation and the rules of departments governing the interests of the merchant marine and all matters appertaining thereto.

"The Shipping World Year Book 1892," compiled and edited by Major Evan Rowland Jones, London, comes to hand this week in its usual neat, well bound and handy form. As a port directory of the ports of the world the "Year Book" stands unrivalled, it is complete and accurate in its detailed and multifarious information contains more pages than the previous annual and is a work that should be kept close at hand by merchants, shippers and the active members of the mercantile marine. The publishers are the "Shipping World Co.," 25 Pilgrim street, Ludgate Hill, London.

"American Shipbuilding and Lake Transportation," by Joseph R. Oldham, N. A., Cleveland, O., is the title of a handsomly illustrated morocco bound booklet which has found its way to our desk. The author is a well known writer on nautical subjects relating to shipbuilding, engineering and mechanism his latest production fully bears out the practical qualifications of his early training and life long study on these lines. The subject of screw steamship and tow barge efficiency on the northwestern lakes are ably handled and considerable space is given in the treatise to the whaleback form of construction.

TRANSPORTATION BY RAIL.

There has just been issued from the Statistician's office of the Interstate Commerce Commission the third annual report on the "Statistics of Railways in the United States." This report gives comprehensive statistics covering the operations of railways for the year ending June 30th, 1890, and a statement of earnings from passenger and freight service, together with operating expenses and fixed charges, for the nine months ending March 31st, 1891. A marked feature of this report, which adds greatly to the value of its statistics, is the division of all statistics into ten territorial groups by which the differences in conditions of operation in various parts of country are clearly brought to notice. Formerly all statistics have been massed for the entire country, and the averages deduced have been for all the roads in the United States. The comparisons rendered possible by this report show marked differences in the different parts of the country.

From this exhaustive report much valuable data regarding railroad transportation is brought to light, and in keeping with the increased transportation facilities offered by water we note that the railway mileage in the United States on June 30th, 1890, was 163,597.05 miles. The increase in railway mileage brought into operation during the year was 5,838.22 miles. Michigan shows the largest increase in railway mileage during the year, being 459.08 miles, and Georgia comes next, with an increased mileage of 437.94 miles. Group V, made of the States of Kentucky, Tennessee, Mississippi, Alabama, Georgia, and Florida, shows an increased mileage of 1,370.32 miles during the year. The total length of track for the United States, including all tracks, sidings, and spurs, is 208,612.55.

PROPOSALS.

UNITED STATES ENGINEER OFFICE 34 West Congress street, Detroit, Mich., January 19, 1892. Sealed proposals, in triplicate, will be received at this office until 2 o'clock p. m., March 4, 1892, and then opened. For furnishing Twelve Valve Frames and Fourteen Valves for the 800 foot Lock at St. Mary's Falls Canal, Michigan. Preference will be given to materials of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to Acts of Congress, approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. The Government reserves the right to reject any or all proposals; also, to waive any informalities. For further information apply at this office. O. M. POE, Colonel, Corps of Engineers, Bvt. Brig. General U. S. A. 1-21-4

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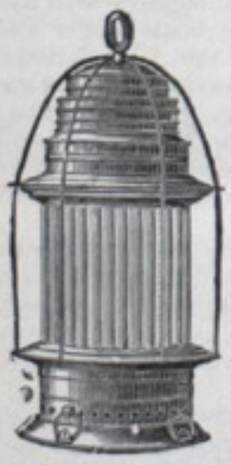

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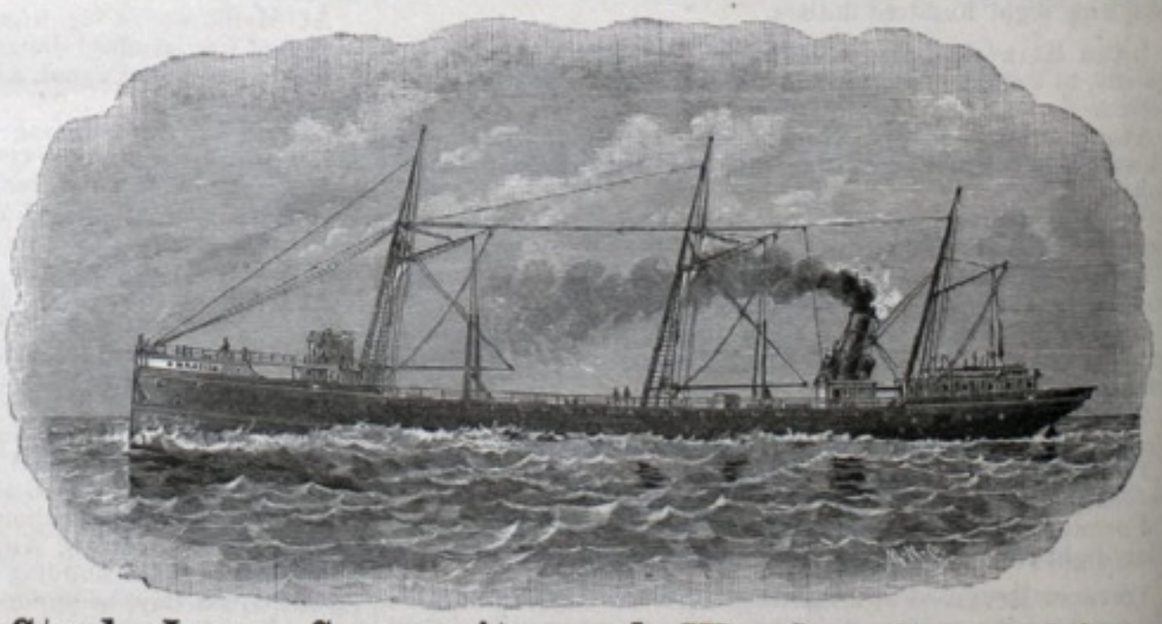

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